Feature

New barriers to mobility in Europe?

The political fallout of the referendum against 'mass migration' in Switzerland could damage the country's reputation as a hub for international scientific collaboration. Worse still, by encouraging anti-immigration parties across Europe ahead of the European elections, it could ring in a new era of barriers to the exchange of people, skills and experience. **Michael Gross** reports.

For a small country with only 8 million inhabitants, Switzerland has a remarkable concentration of world-leading research facilities. The Large Hadron Collider based at CERN, Geneva, provides a model of peaceful and constructive cooperation across all cultural divides. In 2013 it accomplished a key target by confirming the existence of the Higgs boson — thanks to the work of over 10,000 scientists from more than 100 countries. CERN, of course, is also the very same place where Tim Berners-Lee laid the foundations for the world-wide web.

The Blue Brain project, which in 2013 secured exceptional EU funding in the order of one billion euros grew out of a laboratory in Lausanne (Curr. Biol. (2013) *23*, R177–R180). Then there is ETH Zurich, which boasts 20 Nobel laureates among its alumni and faculty members. Not to forget the Biozentrum Basel, a pioneering hub of modern molecular biology and biomedicine since its foundation in 1971. Basel is also home to two giants of the pharmaceutical industry, Roche and Novartis, which operate globally and attract scientists to move to Switzerland.

Research facilities and universities have attracted scientists who came from near and far and further strengthened the excellent scientific reputation of the republic. A young Albert Einstein found refuge there and developed his theory of relativity in his spare time whilst working as a patent clerk in Bern. Austrian biochemist Gottfried Schatz, co-discoverer of mitochondrial DNA, left New York to join the Biozentrum Basel, which he also chaired for a time. A quick, unsystematic trawl through the list of the current group leaders at the Biozentrum has yielded scientists from Romania, Hungary, Canada, the Netherlands, the UK, as well as at least four from Germany.

Each of the three language zones of Switzerland has traditionally held close contacts with the neighbouring countries speaking the same language. Thus, there has been a lively migration, for instance between Southern Germany, Austria, and the German-speaking part of Switzerland. While it wasn't always easy to move into the country, border cities like Geneva and Basel attracted large numbers of cross-border commuters.

In 2002, a set of bilateral agreements between the Swiss government and the EU enabled people to move from one area to the other just as easily as within the EU. The set, which also includes agreements on land and air traffic, trade of agricultural products, and cooperation in science and technology, came with a so-called guillotine clause — meaning that removal of any one of the agreements might invalidate the whole set. Which is exactly what may happen within the next few years, as the government will have to implement the referendum held on February 9th, which narrowly voted 'against mass migration'.

The Swiss exception

Thanks to the accumulation of bilateral agreements, Switzerland has enjoyed closer links to the EU than any other country that hasn't become a member. Essentially, the Swiss enjoy all the advantages of the free trade and mobility across Europe, without the downside of getting dragged into the financial troubles of the union. They even have exception clauses restricting the immigration from countries that joined the EU recently.

It is widely believed that the free movement of skilled workers and scientists into Switzerland, following the siren calls of the exceptionally high quality of life in the country, has boosted both science and the economy there. Business leaders have spoken out against the restrictions proposed in the referendum text,

Pretty picture: Switzerland is an attractive destination not only for tourists but also for scientists. The recent referendum to curb immigration may signal a mood change which could harm scientific exchange. (Photo: MadGeographer/Wikimedia Commons.)

Voting no: The European parliament could soon see a massive influx of representatives who are opposed to many of the principles the EU stands for, including free movement. (Photo: Wikimedia Commons.)

and the votes in the cities brought majorities for the 'no' camp.

The referendum is the work of Christoph Blocher, leader of the rightwing Volkspartei (people's party). Although the largest party in Switzerland, it has recently lost influence, as all other parties have joined forces against it. Intriguingly, a documentary observing Blocher during his campaign for the 2011 general elections, *L'Expérience Blocher*, was released in French cinemas on February 18th, just over a week after the referendum. Blocher has succeeded in mobilising people who are fearful of being swamped by immigrants. Currently, around a quarter of the eight million residents are foreign-born. Italians and Germans are the largest factions by far, followed by Portuguese and French. The annual influx is just under 80,000.

The referendum adds a new paragraph to the constitution, stating that immigration must stay within limits to be defined by law, taking into account the economic interests of the country and its citizens. The referendum does not indicate any numbers. Thus, its impact on migration as well as its collateral damage affecting science and the economy will depend on how the government formulates the laws containing the small print on who will be allowed to move in, which it has to do within three years.

Depending on how restrictive the new rules are, the EU may find that they invalidate the agreement on free movement and invoke the guillotine clause, bringing down a whole range of privileges for Swiss businesses and scientists alike.

Some predict that the government will stay on the safe side, and not much will change. "The effect of this referendum is overstated. The government has three years to change things, and changes may be almost insignificant," comments one research scientist who recently acquired Swiss nationality.

Then again, even subtle changes to the way that migration is handled could have psychological effects if it makes people feel undesired.

The foreign secretary of the Royal Society, Martyn Poliakoff, recently bemoaned the damaging effect of the ever tightening visa rules on international exchange in the sciences (Science (2014) *343*, 461). "Throughout most of the developed world, governments are responding to domestic concerns over immigration by tightening entry requirements and introducing ever more complex application procedures for visas. This situation is harming science," Poliakoff wrote. He concluded that "the bureaucratic visa labyrinth still sends a subliminal if not explicit message of 'Stay at home.'"

Similarly, the laws arising from the Swiss referendum may harm science. Asked to comment on this issue, Poliakoff pointed out that "science thrives on collaboration and that is increasingly a cross border endeavour. Any barriers that impede that collaboration can slow down progress and leave the countries that put the barriers up out in the cold."

Even if the Swiss government manages to contain the impact of the referendum without provoking a backlash that might help Blocher's party to gain more influence, there is the risk that nationalists elsewhere in Europe feel inspired by the result and redouble their efforts to restrict mobility.

The anti-Europeans

Even before the Swiss referendum, fears of 'mass migration' have been stoked in various EU countries by nationalist parties and the right-wing press. At the beginning of this year, for instance, mobility restrictions for citizens of the new member states Romania and Bulgaria were lifted. Many predicted mass influx of people from these poor countries into the wealthier parts of the union, but the great trek has so far failed to materialise. Still, the topic of migration has stayed on the news agenda relentlessly.

In the UK, for instance, the Conservatives in government currently compete with the right-wing UK Independence Party (Ukip) for the anti-immigration vote, while fighting their coalition partner, the Liberal Democrats, on the interpretation of what effects immigration actually has on the established population.

Most recently, the government has been criticised for holding back the publication of an official study which showed little effect of immigration on the jobs available to British workers. This contradicted an already discredited analysis by the government's migration advisory committee, which had claimed in 2012 that for every 100 immigrants of working age, 23 Britons were pushed out of the job market. Home secretary Theresa May had based her efforts to limit immigration on these figures. When the non-publication of the report contradicting this

claim became a political liability, the government swiftly published it while emphasizing the specific cases where British workers still may lose out due to immigration.

Meanwhile, Ukip leader Nigel Farage doesn't bother too much with these statistical details. He tends to dive straight into the emotional arguments, saying, for instance, that parts of Britain look like a foreign country. As Anne Perkins concluded in a commentary for *The Guardian*: "The evidence to support a rational case against migration is crumbling away. That makes countering the irrational one even tougher."

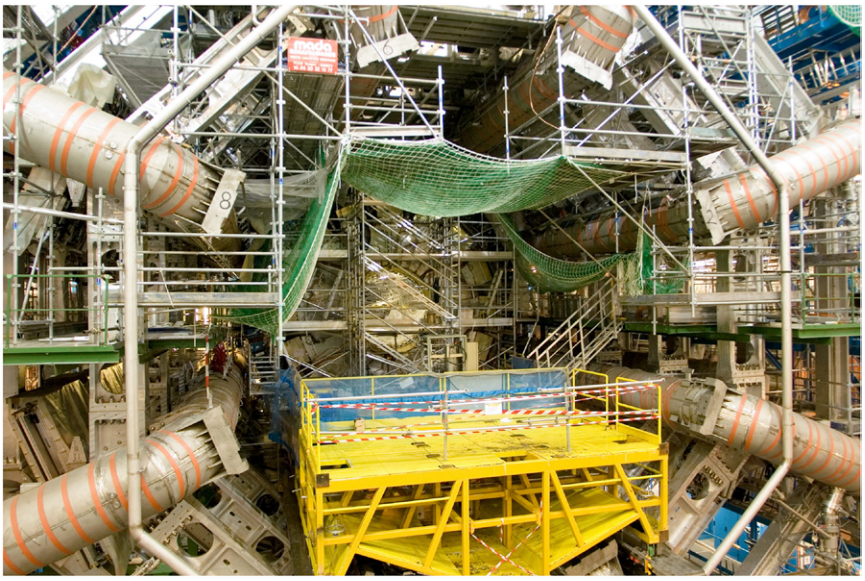
Other European countries have their own migration debates, and political forces capitalising on people's fears of the unknown and different. Often, these forces are the same that campaign against deeper involvement in the EU. In France, the Front National under Marine Le Pen, the much more subtle daughter of founder Jean-Marie Le Pen, is steadily moving into the mainstream.

In Germany, the Alternative für Deutschland (AfD), founded in February 2013, narrowly missed the threshold for entry into the Bundestag at the general elections in September. Its main issue is to campaign against the euro, but it also wants to restructure immigration and integration of foreigners on the basis of assessing people's skills and usefulness to the host country.

Italy — itself the source of significant migration to Switzerland and other European countries — has its Lega Nord, while Austria has the Freedom Party led by Heinz-Christian Strache, and the Netherlands also have a Freedom Party led by Geert Wilders. All these have cheered the result of the Swiss referendum and suggested that their own countries should follow the example.

If some of the traditional conservative parties like Angela Merkel's CDU are trying to remain more moderate, it's not because they like multiculturalism, but because business leaders tell them that they like the advantages they have from a freely moving workforce — in other words, international competition for jobs keeping the wages low.

The risk is that the current mood across Europe, boosted by the outcome of the Swiss vote, will deliver an unprecedented number of anti-EU, anti-immigration delegates to the European Parliament. According to recent polls, Ukip may well get 20% of the UK votes. France's Front National was even leading the polls at the end of January with 23%, and Germany's AfD might poll 7%. Apart from the obvious problem of filling a parliament with people who oppose everything it stands for, this development could seriously undermine shared European endeavours, including scientific research collaborations.



Inverse Babel: International collaborative projects like the Large Hadron Collider near Geneva, Switzerland, have brought people from many different cultures together. A revival of nationalism across Europe might endanger crucial cooperation on key issues such as climate change and wildlife conservation. (Photo: Fanny Schertzer/Wikimedia Commons.)

Public funding for international research efforts may dry up, and, just as importantly, the nationalist mood may discourage movement and cooperation. As Martyn Poliakoff emphasised in his commentary on visa problems, "Young researchers need to travel to widen their horizons and build up their skills by experiencing the scientific cultures and approaches in different countries." While mechanisms to foster this exchange are well established in the current research funding structures, a political shift towards nationalism across Europe may undermine these.

Physicist Paul Halpern, author of *Collider: The Search for the World's Smallest Particles* cites the Large Hadron Collider as an example of the advantages of international research: "The failure of the Superconducting Supercollider (SSC) in the U.S., which was cancelled during its construction phase, and the success of the Large Hadron Collider in Switzerland and France, offer a stark lesson on the power of international cooperation," he explains. "The former was largely a national effort, subject to the tides of local politics. The latter, thanks to steady funding from many European countries and other nations, has been able to plan, build, and execute its mission for many years, leading to the discovery of the long-sought Higgs boson particle."

The sheer size of the international collaborative effort at the Large Hadron Collider has even attracted sociologists to the site, who have used it as a model to study human collaboration. Like an inverse tower of Babel, the project brought people from many different cultural and linguistic backgrounds together in a new community of the size of a town, united by science.

All this, along with the exceptional international cooperation required to meet global challenges like climate change, biodiversity loss and food security, will be at risk if countries decide they value their narrowly defined national interests more highly than the common good.

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